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XR FOR VR

Extended Reality for Vocational Rehabilitation

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XR for VR



BSC XR for VR uses extended reality (XR) and assistive technology to help individuals with disabilities explore and prepare for careers



Serving a Broad Spectrum of Disabilities including cognitive disabilities, ADHD, physical and mobility disabilities, sensory differences, etc



Funded by a $9.9M Disability Innovation Fund grant from the U.S. Department of Education, it’s a 5-year grant



Strengthens North Dakota's CIE ecosystem by connecting disability service providers, educators, and employers



Integrate personalized assistive technology into daily living, education, training, and employment.



Goal: pilot a replicable, postsecondary-based model that helps individuals with disabilities access Competitive Integrated Employment (CIE)

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CONNECTING

Individuals with Disabilities to Rewarding Lifelong Careers

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Bismarck State College

- A polytechnic mission connected directly to business and industry needs across North Dakota, A campus culture built around applied, hands-on learning
- Career preparation featuring multiple, flexible education and adaptable entry/re-entry pathways for learners
- Home to the Advanced Technology Center - physical space already built for hands-on, industry-aligned training
- Existing technical programs in manufacturing, energy, and other high-demand fields the region already needs filled
- Established employer relationships from years of technical program placements and internships
- An existing accessibility/disability services office that XR for VR could build directly on top of
- Through XR for VR, that education and workforce role connects directly with career coaching, assistive technology expertise, Educators, Employers and disability service partners

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One Project, Multiple Partners, One Goal

- BSC leads the project and keeps it tied to education
- CareerViewXR turns real workplaces into something a learner can actually see
- ND Assistive supplies the assistive technology and adaptations, drawing on their expertise to match tools to real tasks
- CAST brings Universal Design for Learning expertise to shape how the XR experiences are designed to be usable for every learner
- Vocational Rehabilitation and service providers keep the focus on each person's own goals
- Employers add the ground truth - what the job and workforce really requires

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From Awareness Gap to Career Connection

- Learners often don't know what careers and supports are available, and employers often don't know what a person with a disability can actually do.
- Colleges already have connections on both sides and XR for VR is built to close that gap
- Career exploration gives learners more information to work with
- Real workplace examples give employers a concrete picture of how support works in practice
- An immersive field trip can show that day-to-day reality firsthand
- A conversation with an educator, advisor, or career coach turns that experience into next steps
- Career connection - linking a personal interest to the preparation and opportunity needed to pursue it
- A campus is where that shift naturally happens - through a class, an advisor, or a coach

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XR for VR across North Dakota

- Core tools bring career exploration to life:
  - VR Headsets - individual, portable career exploration
  - Immersive Reality (IR) Room - full-room, hands-on simulation experience
  - Assistive Technology loan library
- Both let participants safely explore manufacturing careers, practice job skills, and build confidence
- People and support services built into every experience, not just the technology

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Virtual Reality Headsets

- Portable, one-on-one immersive experience
- Participants explore manufacturing career environments virtually - no travel required
- Used for career awareness and "try before you train" exploration
- Available for participants and service professionals



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Immersive Reality Room

- A dedicated, full-scale room using extended-reality technology
- Participants explore careers, practice life skills, and build confidence in a safe, accessible environment
- Designed for a more immersive, group-friendly experience than a headset alone
- Open for individual and organization visits - bookable on-site



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XR for VR Immersive Rooms

Shared career exploration experiences across North Dakota.



LEGEND

SIGNED MOUS
Dickinson, Grand Forks, Minot, Devils Lake

EXISTING
XR for VR immersive rooms:
Bismarck (*BSC immersive room*), Jamestown, McKenzie County, Grand Forks

LEVERAGEABLE ASSET
Fargo (*Red River Valley Fairgrounds room, not part of XR for VR but could be leveraged*)



Stronger together.
Connecting communities through immersive experiences that inspire learners and prepare North Dakotans for the future.

EXPLORE CAREERS | BUILD CONNECTIONS | PREPARE FOR THE FUTURE

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XR for VR Assistive Technology Library

- Interactive virtual tour of real AT devices, Built so participants and providers can match tools to real job tasks, before committing to a device
  - Meta smart glasses - hands-free access to information, navigation, and communication support on the job
  - Anti-vibration gloves — padded gloves to absorb and dampen impact from heavy power tools
- Bridges the gap between "what AT exists" and "what AT actually works in a workplace"
- ND Assistive provides expertise, assessment, training, and support



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3D printing partnership

- ND Assistive (project's AT contractor) collaborates directly with BSC's 3D printing class
- Class identifies and prints custom assistive devices based on real participant needs
- Students get authentic, real-world fabrication projects not simulated assignments
- Participants get customized, low-cost AT solutions built specifically for them
- A self-sustaining, in-house production pipeline - one campus department serving another
- Model any institution with a fabrication/engineering program could replicate





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Train-the-trainer

Inspiring Tomorrow: CTE Educator's Workshop

- Annual, 4-day professional development event
- For CTE educators across North Dakota
- Hands-on training: robotics, drones, PLCs, automation, assistive tech, VR, Industry presentations and tours
- The goal isn't just awareness - it's giving educators the confidence to bring these tools into their own classrooms
- Every trained educator becomes a local point of access, extending the project's reach without adding staff
- This is where the model's replication story becomes real, not just equipment, but people equipped to use it





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Competitive Integrated Employment (CIE)

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Competitive Integrated Employment (CIE)

- Competitive Pay
  Employees earn at least the minimum or customary wage for the position, with pay comparable to coworkers performing the same job.
- Integrated Setting
  Employees work alongside coworkers without disabilities in an integrated, non-segregated workplace.
- Opportunities for Advancement
  Employees have the same opportunities for workplace interaction, career growth, and advancement as other employees.



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CIE & the Future of Workforce Development

Aligns with Industry 4.0

- Demand for skilled, adaptable workers is rising
- Automation and AI require human-centered skills like creativity and collaboration
- CIE ensures people with disabilities are not left behind in the future workforce

Supports Economic Resilience

- Diversifies the talent pipeline
- Reduces labor shortages in key industries (e.g., healthcare, manufacturing, logistics)
- Promotes balanced growth in local and national economies
- CIE roles emphasize technical skills, soft skills, and lifelong learning

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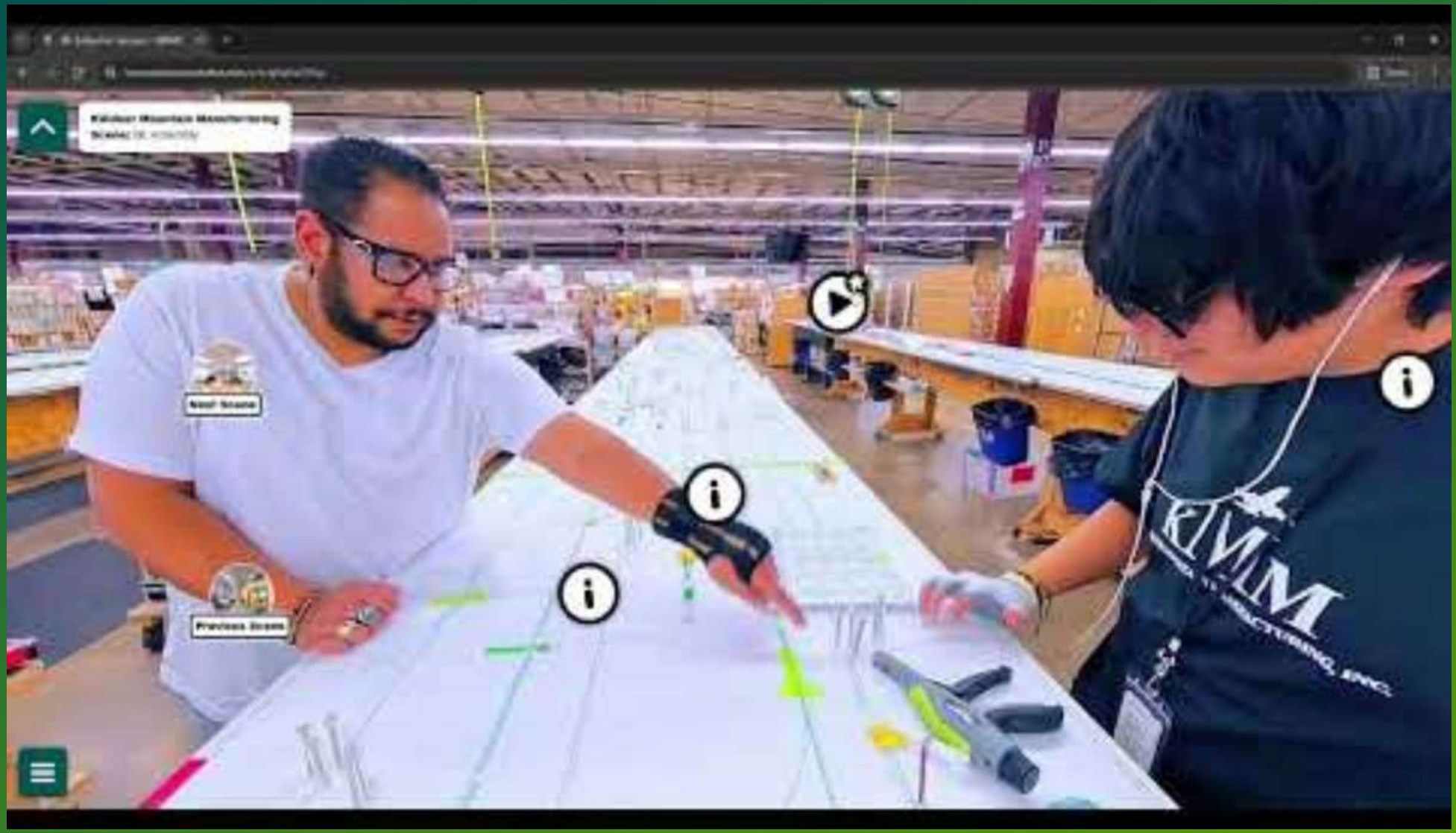
A Real Example: Killdeer Mountain Manufacturing

- Aerospace manufacturing through an XR for VR field trip
- Filmed inside an actual aerospace manufacturing floor
- Learners see the real tasks, pace, and environment, not a description of one
- Employers get a look at how another workplace makes support work in practice
- Shared references makes conversations more specific
- Available both as a web tour and a full VR experience, depending on how someone wants to explore it



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KMM Web Tour Snippet



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What This Looks Like for you?

- A virtual field trip can connect a technical program to the careers it actually leads to
- Workplace previews can help prepare a learner before a real employer visit
- Assistive technology examples can support conversations with educators and employer partners
- None of this requires a full program on day one - explore existing resources and content first
- Create local content based on learner and employer needs
- Identify where learners and employers need clearer information
- Consider existing partnerships, staffing, and campus capacity
- Identify who can connect exploration with preparation and ongoing support



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Resources

- XR for VR
- CareerViewXR
- ND Assistive
- CAST
- Find your state's equivalent of ND Assistive
- JAN

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NCATC Conference - BSC XR for VR CIE Feedback



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